

AMENDMENTS TO THE CLAIMS

1. (Currently Amended) A system for producing a signal ~~for~~
~~characterizing~~ adapted to characterize tissue and to correct for optical
fluctuations, consisting of:
 - laser means for generating
 - an emission signal and
 - a reference signal,
 - a probe with a needle that is adapted to be inserted into the tissue and that
directs said emission signal to the probe and through the needle to the tissue for
characterizing the tissue,
 - an emission optical detector,
 - a reference optical detector,
 - a transmission system including an emission optical fiber connected to
said laser means, to said probe, to said needle, and to said emission optical
detector that transmits said emission signal to said probe, to said needle, and
from said probe to the tissue for characterizing the tissue, and from the tissue to
said needle, to said probe and to said emission optical detector, and
 - a reference optical fiber connected to said laser means, to said probe, and
to said reference optical detector that transmits said reference signal to said
probe and from said probe to said reference optical detector, and
 - a compensation system that utilizes said reference signal to correct said
emission signal and producing a signal for characterizing the tissue for the
optical fluctuations.
2. (Currently Amended) The system for producing a signal ~~for~~
~~characterizing~~ adapted to characterize tissue of claim 1, wherein said laser means

comprises multiple laser sources and means that ~~generates an emission signal~~
~~that is an~~ generate an optical emission signal and an optical reference signal.

3. (Currently Amended) The system for producing a signal ~~for~~
~~characterizing~~ adapted to characterize tissue of claim 2, wherein said laser means
generates a reference signal that is an optical reference signal and said optical
reference signal is less than 10% of said optical emission signal.

4. (Cancelled)

5. (Cancelled)

6. (Cancelled)

7. (Cancelled)

8. (Currently Amended) The system for producing a signal ~~for~~
~~characterizing~~ adapted to characterize tissue of claim 1, wherein said laser means
includes an optical splitter means that splits for producing said emission signal
and said reference signal.

9. (Currently Amended) The system for producing a signal ~~for~~
~~characterizing~~ adapted to characterize tissue of claim 1, wherein said
compensation system utilizes said reference signal to correct said emission signal
for optical fluctuations by reducing the effects of emission signal source
fluctuations.

10. (Currently Amended) The system for producing a signal ~~for~~
~~characterizing~~ adapted to characterize tissue of claim 1, wherein said
compensation system utilizes said reference signal to correct said emission signal
for optical fluctuations by compensating for changes in transmission system
efficiency.

11. (Currently Amended) The system for producing a signal ~~for~~
~~characterizing~~ adapted to characterize tissue of claim 1, wherein said
compensation system utilizes said reference signal to correct said emission signal

for optical fluctuations by reducing the effects of emission signal source
fluctuations and compensating for changes in transmission system efficiency.

12. (Cancelled)

13. (Cancelled)

14. (Cancelled)

15. (Cancelled)

16. (Cancelled)